

Episode Overview

In this episode we look at kaitiakitanga (guardianship and protection) through the perspective of our environment. We visit the Endemic Wall at Te Papa to view some of the taonga from our whenua (land) with a particular focus on tree ferns. In the studio we use block coding to create an interactive animation. This episode is designed for students working at levels 3-5 of the NZ curriculum.

Resources to Support Whānau with Learning from Home

Digital technology is now a compulsory part of the New Zealand Curriculum that can be woven across other learning areas to create authentic future focused learning.

This resource will support you and your child to extend their learning with links to support materials for our digital tools and unplugged activities, further research and print resources that you can use at home.

Unplugged Activity – Fern identification flow chart

To identify the difference between ponga (silver fern) and other common NZ tree ferns you can use an identification flow chart. This teaches you computational thinking to decide what type of fern you are looking at. You can download our [Tree fern identification flow chart](#) or make one of your own.

Digital Tool Tips and Tricks – Scratch

[Scratch.com](#) is a free block-code programming website that you can use on all devices, you do need a login to save your work. There are prepopulated blocks of code that you can drag and drop to create a cartoon. Watch our introductory video: [Introducing Scratch](#) or [Ko Scratch tēnei](#). [View the Educator guides](#). Episode 5 shows you how to use the ‘if, then’ and ‘if, then else’ blocks to create an interactive animation in Scratch. [You can remix our Scratch project here](#).

Curriculum Links for Teachers

<p>Technology Progress Outcomes</p>	<p>Computational Thinking PO3: In authentic contexts and taking account of end-users, students decompose problems into step-by-step instructions to create algorithms for computer programs. They use logical thinking to predict the behaviour of the programs, and they understand that there can be more than one algorithm for the same problem. They develop and debug simple programs that use inputs, outputs, sequence, and iteration (repeating part of the algorithm with a loop). They understand that digital devices store data using just two states represented by binary digits (bits).</p>
<p>NZC Learning Areas</p>	<p>Science – The living world - Students develop an understanding of the diversity of life and life processes, of where and how life has evolved, of evolution as the link between life processes and ecology, and of the impact of humans on all forms of life. As a result, they are able to make more informed decisions about significant biological issues. The emphasis is on the biology of New Zealand, including the sustainability of New Zealand’s unique fauna and flora and distinctive ecosystems.</p> <p>Social Sciences - Place and Environment – Students learn about how people perceive, represent, interpret, and interact with places and environments. They come to understand the relationships that exist between people and the environment.</p>
<p>Learning Intentions</p>	<p>Understand what makes our whenua unique and precious and how to apply kaitiakitanga to protect it from environmental changes. Decompose problems to into step-by step instructions to create algorithms for Scratch coding. Develop and debug Scratch code.</p>
<p>Success Criteria - Students will be able to</p>	<p>Complete an algorithm to share what I know about kaitiakitanga. Create a digital story using Scratch coding to show guardianship of the environment. Debug any mistakes in my algorithm so it works correctly.</p>

Ngā Hononga ki te Marautanga

Te Aho Hangarau Matihiko	Whakaaro Rorohiko (Whakatupuranga 2): Ko te hanga hātepe -Ka mārama ko tēnei mea te hātepe, he tukanga tohutohu ki te whakaoti hopanga, ka taea hoki te whakamahi i ēnei ki te tuhi papatono rorohiko, ā, me tika, me hāngai ngā tohutohu kia taea ai e te rorohiko te whai. Ka hoatu, ka whai hoki i ngā hātepe patuiro ngāwari i roto i ngā taiao rorohiko, rorohiko-kore hoki. Ka taea ēnei hātepe te whakamahi ki te hanga papatono māmā mā te whakauru i ngā mea pēnei i te tāuru, i te tāputa me ngā raupapanga i tēnei taiao hanga papatono.
Te Marautanga Wahanga Ako 1	Tikanga ā Iwi: Te Whakaritenga Pāpori me te Ahurea - Ka whakawhanake mōhiotanga te ākongā ki: ngā take me ngā huarahi e whakarite ai te tangata i a ia anō ki te whakatutuki i ōna matea; ngā motika, ngā tūranga me ngā haepapa o te tangata i a ia e pāhekoheko ana i waenga rōpū; te hononga o te ahurea ki te tuakiri o te tangata me ngā putanga iho o te pāhekohekotanga ahurea.
Ngā Whaingā Ako	E taea te whakamārama he aha te kiatiakitanga ki Papatuanuku me te taiao.
Ngā Putanga Ako	Te whakamahi i tētahi papatono, pēnā i a Scratch, e pā ana ki te kaitiakitanga o te taiao mai tuhiwaehere.

Learning Links and Reading Lists for Whānau and Teachers

Extension Activities

[Fern life cycle](#) (Science Learning Hub)

[Building Science Concepts](#) (Science Online resource books)

[Scratch coding challenge](#)

Research Links

[iNaturalist](#) - Link for app plant and animal identification

Scratch Webinars: [If, then coding language](#) | [Game based learning with Scratch](#)

[Citizen science iNaturalist project on Google Earth](#)

[Human impact on marine environments](#) (Science Learning Hub)

[Compostable packaging](#)

[Te Papa Tongarewa Museum of New Zealand](#)

Print Resources

[Tree Fern ID Flowchart](#)

Literacy Resources

Journal series:

[Designed for Good](#) (May 2017, Level 3)

[Timber!](#) (November 2011, Level 3)

Connected series:

[Accidental Plastics](#) (Level 4 2013)

[Kauri Dieback](#) (Level 4 2017)



mtg Hawke's Bay

WAITANGI
TREATY GROUNDS

Waikato Museum
TE WHARE TAONGA O WAIKATO

The Raranga Matihiko programme is funded by the Ministry of Education Digital Technologies for All Equity Fund. www.rarangamatihiko.com

Raranga
Matihiko tv
weaving museum taonga and digital learning together

